3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

thousands of square miles in America, and that a single 315
Baku oil fountain has actually yielded as much in one day as 25,000 wells in America. The American system has been adopted at Grozni and Maikop. Manila ropes have been very generally replaced by wire ropes. Pumps cannot be used at Baku to raise the oil, and it is therefore baled by steam or electric power; air-lifts have recently been found successful. In default of fresh water, steam at Baku has to be obtained from sea-water, which causes rapid destruction of the boilers.

Oil is conveyed to the Black Town (Baku) refineries [471]
in pipe lines, of which in 1906 there were 39 in private ownership besides the State pipe lines. Large firms had their own pumping stations in addition to those provided for general use. Fountain oil was pumped direct to the stations and measured there. Some of the Bibi-Ebyat oil goes by barge.

From Baku the oil has four means of transit: by [489]
rail to Batum or Poti; by pipe line (kerosene) to Batum; by rail to Petrovsk; and by tank-steamer to Astrakhan and thence up the Volga. The last route, by which the Volga factories are supplied, is only open from April to October.

Electric power was steadily replacing steam power [377]
on the oil-fields in 1914. The Spies Petroleum Co. at Grozni run their works almost wholly by it. There are generating stations at Sabunchi, belonging to Nobel Brothers; at Zabrat, belonging to the Société de la Caspienne et de la Mer Noire; at White Town (1,200 horse-power); and at Baieloff (4,500 horse-power). At Sabunchi and Zabrat the Surachani gas is used to generate electricity.

(6) Manufactures

Ciscaucasia and Transcaucasia have each their own 438
characteristic industries, which, in the former case, are those proper to a region predominantly agricultural, and in the latter are dependent on the output of the oil-fields.

APPENDIX

TABLE I.—SHIPPING IN 1909 AND 1913

	1909.				1913.			
	Foreign trade.		*Coasting vessels.*		*Foreign trade.*		*Coasting vessels.*	
1. *Black Sea.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*
Batum .	692	661,000	777	100,000	527	1,007,027	2,484	—
Poti . .	383	516,130	—	—	155 (steamers)	321,933	94 (sailing vessels).	4,790
Sukhum .	—	—	1,034	8,060	—	—	—	—
Novorossiisk	563	1,242,000	1,645	226,406	458	810,806	1,932 (steamers)	—
							331 (sailing vessels)	—
2. *Sea of Azov.*								
Temryuk .	36	123,340	168	10,256				
Akhtar Bay	—	—	340	16,130				
Yeisk .	—	—	913	5,677				
3. *Caspian Sea.*								
					Tons loaded.		*Tons discharged.*	
Baku .	646	83,726	6,870	4,800,000	5,400,000		664,200	
Derbent .	—	—	145	2,000				
Petrovsk .	14	2,630	1,284	212,936	640,000		233,754	
Lenkoran .	56	300	1,394	21,742				

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439 materials of the food industry, were well exploited under the earlier regime. As a whole, however, one cannot compare the present day variety in food industry with that of Czarist Russia. The giant corn kombinat of Beslan producing starches, molasses, etc. symbolizes the results of the Soviet efforts in this field. The large number of oil presses in the North Caucasus, the sugar refineries in the South Caucasus, the fruit canning centers especially along the slopes of eastern North Caucasus, and the milk industry, centered mostly around the health resorts, were founded in general during the Soviet period. The fishing industry and fish-canning along the Caspian Sea coast and along the shores of the Sea of Azov reached their present size during the recent periods. The wine industry is an old industry in the Caucasus, but the tea industry is a Soviet creation. This new industry is centered in the subtropical western and eastern corners of the South Caucasus.

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489 Of the related fields, transportation also shows the impact of the new Russian industrialization policy. On the eve of World War I, the Russian railroad system was inadequate. Of the present main lines, only the Baku-Rostov, the Novorossiysk-Tsaritsyn, and the Baku-Batum were in existence. There was also a trunk line connecting Dzhul'fa with Tiflis, and Astrakhan' with Saratov, and Stavropol' with Yekaterinodar. As against this,

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489 the present Soviet regime has created the aforementioned Black Sea and Caspian Sea lines, the line along the Aras River, and, which is very important, a dense network of trunk lines. In navigation the changes during the Soviet period have been less important. This is due partially to the non-existence of foreign trade, to the relative unimportance of coastal shipping, and especially to the fact that in the Caucasus the rivers are unsuited for navigation (the Don and the Volga Rivers do not belong to the Caucasus, but rather mark its northern limits). Similarly, the network of primary roads is extremely skimpy. From this point of view there is no difference between the old and the new regimes. The famous military roads through the Caucasus have more historical, than practical value. According to some recent data, the building of a super-highway has started which will link the Caucasus to Moscow. Completely new is the aviation service which is of great value in a huge country such as Russia. The more important centers like Baku, Yerevan, Kirovabad, Makhachkala, Astrakhan', and Rostov have several airfields or landing grounds.

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529 Finally, the network of the health resorts which partially existed even in the Czarist period made the Caucasus the most important center of the hotel and catering trade in the whole USSR.

TRANSPORTATION

489 Until the end of the nineteenth century Russia's transportation was based on waterways. Thus, the Russians first reached the Caucasus by way of the Volga and Don Rivers. Political difficulties and the paucity of navigable rivers in the Caucasus proper, however, prevented easy and total Russian colonization. 489 Serious exploitation of the area by the Russians 496 did not start until the first railroad line (the Rostov-Baku line) was built in 1870. Today Caucasian transportation is based on railroads. The Soviet regime, realizing the importance of railroads for industrialization (and Russification) has built over 40,000 miles in the USSR during the last thirty-five years, bringing the present day total mileage to 80,000. In the Caucasus, the Czarist railroads were used to transport raw materials from the Caucasus to the processing centers of Inner Russia, and bring the finished products back to this outlying area. The present-day system takes care of local needs as well as over-all Russian requirements; it connects the capitals of the various sub-areas, links the hinterlands to their respective harbors, secures a strong connection with Moscow, and finally takes into consideration military requirements as well. 489 The importance of high- 491 ways in the Caucasian transportation system is small. The mountainous parts of the South Caucasus and the Krasnodar Kray in the North Caucasus have relatively better roads. The old military roads across the Caucasus range are primarily of touristic value. The best is the

series of trunk lines, the most important of which are the Mirzaani, Telavi, Stalinir, Bakuriani, Vale, Sachkere, Tkibuli, Tskhaltubo, Poti, and Zugdidi lines. The main port of the republic is Poti. The military roads have primarily historical value. Aviation is centered around Tbilisi. The capitals of the sub-units (Stalinir, Batumi, Sukhumi) have railroad connections, and Batumi is at the same time one of the principal petroleum loading ports of the USSR.

Astrakhan' Oblast: Transportation is based on waterways (the Volga and the Caspian Sea), and more recently on railroads. The principal railroad line is the Saratov-Astrakhan'-Kizlyar line, the Astrakhan'-Kizlyar section of which was recently built. Chief port of the area is Astrakhan' connected by a 125-mile long channel through the shallow waters of the Caspian Sea with Astrakhan' Port. Astrakhan' is above all an oil port; in addition to this it is an important aviation center.

Groznyy Oblast: Transportation based on railroads. The oblast is well served by the two Baku-Rostov main lines (along the Sundzha, and the Terek Rivers), and by the new Kizlyar-Astrakhan' line. The chief junction is Gudermes.

Dagestan ASSR: On the Baku-Rostov line. The center of the railroad system is Makhachkala, the terminal of several spurs. Makhachkala is an important grain, cotton and petroleum port as well, trading mostly with Russian Central Asia, and with Persia. There are also several airfields around the city.

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489 Stavropol' Kray: Transportation based
496 only on railroads. The chief line is the Baku-Rostov line with spurs penetrating into the steppe and into the Greater Caucasus. Of these trunk lines, which are sometimes electrified, the most important are the Dzaudzhikau, Alagir, Nal'chik, Kislovodsk, Ust'-Dzegutinskaya, Budennovsk, Blagodarnoye, and Divnoye lines. All the capitals of the sub-
[508] units have railroad connections. Airfields are concentrated in the health resort area, around Pyatigorsk.

Krasnodar Kray: Transportation based partially on railroads, partially on coastal shipping. The kray has the most developed railroad system in the Caucasus. The chief lines are the Baku-Rostov, and the Novorossiysk-Stalingrad lines crossing each other at Tikhoretsk. The other important junctions are
[504] Armavir, Krasnodar, and Kropotkin. There is a whole series of good harbors in the area. Tuapse, an oil port, and Novorossiysk, a grain and oil port, are especially important. The harbors on the Sea of Azov are of less impor-
[508] tance. There are several airfields in the area.

Rostov Oblast: Transportation based on waterways (Don; Sea of Azov), and on railroads. The center of the railroad system is Rostov.
[504] Of the ports, Taganrog (coal and grain shipping), and Rostov are the most important.

The distribution of the various means of
496 transportation in the entire Caucasus is as follows:

Railroads: The essential means of

RHI

489 Georgian Military Road connecting Dzaudzhikau
[491] with Tbilisi. Aviation, on the other hand, is very well developed.

The transportation systems of the various sub-areas are as follows:

489 Azerbaijan SSR: Transportation based
496 on railroads. The chief rail junction is Baku, the terminal of the Baku-Rostov, Baku-Tbilisi, and Baku-Dzhul'fa-Tbilisi lines. The main lines are partially electrified as are the railroads on the Apsheron Peninsula. The main
[304] port is Baku (petroleum-loading). The Kura River is navigable as far as Yevlakh. The air-
[508] fields are concentrated around Baku and Kirovabad. The sub-units are well served by railroads. Stepanakert, the capital of the High-Karabakh AO, is the terminal of a trunk line coming from Yevlakh. Dzhul'fa, in the Nakhichevan' ASSR, is an important junction on the Baku-Tbilisi-Tabriz (Persia) lines.

Armenian SSR: Railroads are the chief means of transportation. Important junctions are Zangibazar (on the Leninakan, Zanga, and Dzhul'fa lines), and Leninakan on the Tbilisi,
[491] Dzhul'fa, Artik, and Kars (Turkey) lines. The highways along the slopes of the Lesser Cauca-
[509] sus are relatively good. Yerevan is the aviation center of the republic.

Georgian SSR: Transportation mostly based on railroads. The main lines are the Baku-Tbilisi-Batumi, and the Tbilisi-Sukhumi-Tuapse lines, with Tbilisi, Khashuri, and Samtredia as the chief junctions. The Georgian railroad system has at the same time a whole

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throughout the region and are especially concentrated at Stavropol', Georgiyevsk, Nevinnomyssk, and Budennovsk, where flour milling, oil pressing, canning, dairying, wool washing, cotton ginning, and wine making are the principal activities.

Of special importance in the economy of the region are the health and tourist resorts. One of the most important resort areas of the USSR lies in the foothills of the Greater Caucasus. There the resort cities of Zheleznovodsk (ferruginous springs), Pyatigorsk, Yessentuki, and Kislovodsk are linked by an electrified branch with the main Rostov-Baku railroad at Mineral'nyye Vody. The bottling of mineral waters is a major export industry.

For communications the region relies chiefly on the Rostov-Baku trunk line, from which branches penetrate into the remote sections to Divnoye, Blagodarnoye, Budennovsk, and into the foothills of the Caucasus to Ust'-Dzhegutinskaya and Kislovodsk. The Sukhumi military road, one of the three pass roads through the mountains, continues from the Nevinnomyssk-Cherkessk-Ust'-Dzhegutinskaya rail branch through the valley of the Kuban' and the Teberda rivers, and enters the territory of the Georgian SSR at Klukhori. Of extreme importance for the future development of the region will be the final realization of the Manych Canal project linking the Caspian and the Black seas. Prior to the Second World War, the waterway had been canalized for a distance of over 150 miles eastward to the area of Divnoye. Due to destruction caused by the war, several reservoirs were emptied, and the canal installations fell into disuse. Small-scale reconstruction has been undertaken since the war; however, the completion of the project will have to await a future Plan.

Stavropol', the center of the kray, was known as Voroshilovsk from c. 1935 until 1943. It lies in the chief grain area of the region and has flour mills, a meat-packing plant, wool and leather industries, and produces chemicals and lumbering machinery. The vicinity of the city will benefit immeasurably from the new Nevinnomyssk Canal which will provide irrigation to this drought-ridden section.

Pyatigorsk, in the midst of five mountains (whence its name), of which the Besh-Tau and the Mashuk are best known, is the center of the four resort cities of the Northern Caucasus. Its warm sulphur springs and mud baths are much frequented. Next in size is Kislovodsk, at an elevation of 2,695 feet, with carbonated springs. Yessentuki, west of Pyatigorsk, has salt and alkaline springs, and Zheleznovodsk, to the